UCILON

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Protective Coating Systems

FOR CORROSION CONTROL

Organic Coatings Division

UNITED CHROMIUM, INCORPORATED

New York · Detroit · Waterbury · Chicago · Dayton · Los Angeles

Technical Service Dep't — Carteret

Corrosion Control for the Chemical Process Industries

Ucilon Protective Coatings are a group of specialized organic coatings which are used for corrosion control, functional color schemes, and identification purposes. They also protect refined products against contamination from the containers and transportation equipment in which they are stored and shipped.

Industries Served by Ucilon

BREWING
CHEMICAL
COKE OVEN PRODUCTS
COSMETICS
DISTILLING
DRUGS
FERTILIZERS
FOOD AND BEVERAGE
GLASS AND CERAMIC
LEATHER
LIME AND CEMENT
MEDICINES
OILS AND FATS
PAINT AND VARNISH
PAPER AND PULP
PETROLEUM AND PETROLEUM PRODUCTS
PLATING
PHOTOGRAPHY
RUBBER
SEWAGE DISPOSAL
SOAP AND CLEANING COMPOUNDS
TEXTILE
WATER WORKS
WINE

What Ucilon Coatings Are

Some Ucilon Coatings are solutions of synthetic resins in volatile solvents. When the solvents evaporate, a tough plastic coating remains. Another coating is based on fish oils and dries, like most paints, by oxidation. All Ucilon Coatings are designed to provide long-lasting protection under conditions prevailing in the chemical process industries. There are coatings which will withstand direct contact with the most corrosive chemicals, their solutions and fumes, and there are others designed for general maintenance where the coatings must withstand only the corrosive atmosphere found in the plant.

The line of Ucilon Coatings may be divided into the following groups:

Vinyl-Base Group: Formulations in this group belong to the Ucilon 400 Series. They are thermoplastic, vinyl-base materials which are modified with other types of resins. These coatings are usually air-dried, and are dry to the touch in just a few minutes. However, when maximum corrosion resistance and adhesion are required, they are force-dried at temperatures between 125 and 200 F.

Phenolic-Base Group: Formulations in this group belong to the Ucilon 1500 Series. They are based on thermosetting phenolic resins. These coatings require baking, the recommended baking temperature being 350 F although lower temperatures are sometimes permissable. Coatings in this group have been successfully baked by circulated hot air.

Fish Oil-Base Group: The formulation in this group belongs to the Ucilon 1600 Series. It is an air-drying material based on fish oils which dries by oxidation. Unlike coatings in the other Ucilon Series, this coating is available in only one color, ready-mixed aluminum.

Chlorinated Rubber-Base Group: Formulations in this group belong to the Ucilon 1700 Series. They are based on chlorinated rubber which is modified with other resins. The coatings dry by oxidation and are tack-free in 1 to 3 hours. They are durable general maintenance materials which are available in a variety of colors suitable for carrying out functional color schemes.

Physical Properties

When properly applied, all Ucilon Coatings possess excellent adhesion. Perfect adhesion of coatings in the vinyl-base 400 Series is assured by careful surface preparation and the application of recommended Ucilon Primers. Formulations in the 1600 and 1700 Series, which are used for

general maintenance, require less surface preparation than coatings in the 400 and 1500 Series.

Coatings in the Ucilon 400 Series are tough and elastic. They will not crack or craze. Flexing has practically no effect on them. Steel has often been bent to the breaking point without affecting the Ucilon 400 Coatings applied to it.

A hard, chip-resistant coating is obtained with materials in the Ucilon 1500 Series. When multiple coats are applied, the coating has an appearance similar to that of porcelain enamel. The coating has excellent adhesion but is not flexible.

The aluminum material in the 1600 Series produces a coating that is very smooth. Because it has excellent leafing properties, the coating is extra bright — and it remains bright under long exposure to all atmospheres. The coating is flexible enough to resist cracking when subjected to light flexing.

Glossy coatings with good surface hardness are obtained with coatings in the 1700 Series. They are scuff resistant and have excellent weathering properties. The adhesion is very good, even over surfaces that are not meticulously cleaned.

How Ucilon is Used

Ucilon Coatings are applied to metals, concrete, brick, and wood by brushing, spraying, or dipping. For some applications just one Ucilon material is required. For other jobs, coats of more than one Ucilon material are applied in order to obtain the necessary chemical resistance and adhesion.

Ucilon Coating Systems

A Ucilon Coating System is a coating procedure employing one or more Ucilon materials, the coating or combination of coatings being selected on the basis of its resistance to a specific corrosive agent. Many of these systems have been developed. On the following pages you will find a chart outlining the Ucilon Coating System or Systems recommended for resisting a large number of corrosives frequently employed in the chemical process industries. Following the chart are complete instructions for many of the systems.

Descriptions of Coatings

UCILON 400 SERIES
VINYL-BASE

Ucilon 400: An air-drying synthetic coating used for top coats in many of the Ucilon Coating Systems. In the case of concrete, it is thinned down and also used as a first coat. Ucilon 400 is available both clear and in colors suitable for carrying out functional color schemes. Coverage: 300 square feet per gallon per coat.

Ucilon F: A special formulation used to protect surfaces in contact with food products. It is used without a primer and is force-dried when complete freedom from odor and taste is required. Available clear and in colors. Coverage: 300 square feet per gallon per coat.

Ucilon 451: A dull aluminum, air-drying coating which is packaged in two parts which must be mixed immediately prior to application. Resistant to undercutting, it makes an excellent first coat in systems where Ucilon 400 is used as the top coat — or it is used alone, in several coats. Coverage: 225 to 250 square feet per gallon per coat.

Ucilon 452: A dull gray, air-drying coating with low hiding power. Its properties are similar to those of Ucilon 451, except that it has greater resistance to alkalies. It is used as a prime coat in systems where Ucilon 400 is applied as a top coat — or it is used alone in multiple coats. Coverage: 225 to 250 square feet per gallon per coat.

Ucilon 460: A bright orange, air-drying coating with good hiding power. It is pigmented with red lead. This material is applied alone in multiple coats or is used as a primer for Ucilon 400. It is always applied over a pre-priming coat of Ucilon 440. Coverage: 225 to 250 square feet per gallon per coat.

Ucilon 480: A gray, metallic-appearing, air-drying coating which is pigmented with stainless steel. It is used as a top coat material over a pre-priming coat of Ucilon 440 to produce an organic coating with many properties similar to those of stainless steel. Coverage: 225 to 250 square feet per gallon per coat.

Ucilon 441: A yellowish, air-drying coating with low hiding power. The coating is used as a pre-primer on metals to form an organic phosphate coating which securely anchors subsequently applied top coats. It is packaged in two parts which must be mixed together immediately prior to application. Coverage: 220 to 300 square feet per gallon per coat.

Ucilon Primer 405-P: A yellowish, chromate-type, air-drying metal primer with low hiding power. It gives excellent rust protection to steel and forms an adherent base for top coats of Ucilon 400. Coverage: 250 to 275 square feet per gallon per coat.

Ucilon Primer 413-P: A clear sealer and undercoater with an amber cast which is used in preparing wood surfaces for the application of top coats of Ucilon 400. Coverage: 175 to 200 square feet per gallon per coat.

Ucilon Intercoat 421-B: A dull white, air-drying coating which is used between the prime and top coats in some Ucilon Systems, especially on concrete surfaces. Coverage: 120 square feet per gallon per coat.

UCILON 1500 SERIES
PHENOLIC-BASE

Ucilon 1501: A synthetic maintenance material which bakes into a very hard, chip-resisting coating. When multiple coats are applied, the surface looks like porcelain enamel. The coatings are non-toxic, odorless, tasteless. Available clear and in colors except white. Coverage: 375 to 450 square feet per gallon per coat.

UCILON 1600 SERIES
FISH OIL-BASE

Ucilon 1601: A ready-mixed, air-drying aluminum paint with exceptional outdoor resistance. It retains its extra brightness under prolonged exposure and withstands temperatures up to 550 F. Recommended to protect and improve the appearance of boilers, stacks, structural and steel work.

UCILON 1700 SERIES
CHLORINATED RUBBER-BASE

Ucilon 1701: An air-drying coating which is used for general maintenance. It can be applied over old paint and rusty surfaces without priming or meticulous surface preparation to form a durable, glossy coating. It is available in a variety of attractive colors suitable for carrying out functional color schemes. Coverage: 250 to 300 square feet per gallon per coat.

There Are Still More

Other Ucilon Coatings are available, in addition to those described above. Furthermore, new formulations are continually being developed. We suggest that you consult us concerning your maintenance problems even though the type of coating you are looking for may not be described in this booklet.

Where To Use Ucilon

Systems using coatings in the 400 and 1500 Series are used where moderately strong to strong corrosives come in contact with the coatings. Systems using coatings in the 1600 and 1700 Series are used for general maintenance where protection against atmospheric corrosion or mild fumes is required. As mentioned previously, there are systems for coating metals, concrete, brick and wood.

Listed below are a few general uses for Ucilon:

Piping and oil well tubing
Salt water disposal tubing
Storage tanks
Tankers
Tank cars and trucks
Structural steel
Walls, floors, ceilings
Duct work
Stacks
Agitators
Caustic soda tanks

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Chemical Resistance of Ucilon* Coating Systems

The chart below shows the Ucilon Coating Systems, which as a result of field and laboratory experience, are recommended to resist many of the corrosives handled in the petroleum and chemical process industries. When using this chart, it must be understood that in many cases a number of Ucilon Coating Systems will provide the necessary protection against a given corrosive. In this chart, we have not listed all of the systems which would prove satisfactory. The systems recommended have been selected because, in addition to having the necessary chemical resistance, they are the easiest to apply and the most economical.

In a chart of this type, it is impossible to include all of the factors which influence the selection of the best coating system. For this reason, you should not consider this chart as being definitive. It is intended only as a general guide in choosing the correct Ucilon Coating System. We suggest that you consult us before making any application in which the concentration of the corrosive and operating temperature do not fall within the limits established in this booklet.

When a vinyl coating is required on concrete, use System B. This system will resist all corrosives included in the following chart except those for which no system other than System J is recommended.

When a vinyl coating is required on wood, use System W. Like System B, it will resist all corrosives except those for which no system other than System J is recommended.

The coating system listed under the Continuous Contact column in the following chart may also be considered as recommended for the two other categories. By the same token, any system listed under the Splashing or Spillage column is satisfactory for Fume or Presence in Atmosphere conditions.

FOR GENERAL RESISTANCE TO:	USE THESE UCILON COATING SYSTEMS FOR:		
	CONTINUOUS CONTACT	SPLASHING OR SPILLAGE	FUME OR PRESENCE IN ATMOSPHERE
Acetic Acid (up to Glacial)	J	J	J
Acetic Acid (up to 5%)	J	E,D	D
Alcohols	J,E	E,D	N
Acetone	J	J	N
Aliphatic hydrocarbons	D,H	E	N
Alum Solution (up to saturated) Aluminum Potassium Sulfate	E	D	B
Ammonia Liquor	H	D,H	B
Ammonium Chloride	E	E	E
Ammonium Hydroxide (dil.) (up to 10%)	H	D,H	D,H
Ammonium Nitrate Sol'n (saturated)	A,H	D,H	B
Ammonium Sulfate (up to saturated)	E,M	E,M	E,M
Ammonium Thiocyanate (up to saturated)	E,M	E,M	E,M
Amyl Alcohol	J,E	E,D	N
Animal Fatty Acids	J	J	J

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FOR GENERAL RESISTANCE TO:	USE THESE UCILON COATING SYSTEMS FOR:		
	CONTINUOUS CONTACT	SPLASHING OR SPILLAGE	FUME OR PRESENCE IN ATMOSPHERE
Animal Oils	J	J	J
Apple Juice	J,F	J,F	N
Aromatic Hydrocarbons	J	J	J
Beer	J,F	J,F	E,B
Benzene	J	J	J
Benzene Hexachloride	J	J	J
Bleaching Compounds	A,E	A,E	E,B
Borax (up to saturated)	E	H	N
Bordeaux Mixture	E	E	E
Brine (up to saturated)	G	C	B
Butyl Alcohol	J,E	E,D	N
Caffeine	J,F	J,F	N
Calcium Bisulfite (up to saturated)	J,G	C,D	C,D
Calcium Carbonate (up to saturated)	J,G	C,D	C,D
Calcium Chloride (up to saturated)	J,G	C,D	C,D
Calcium Hydroxide (up to saturated)	A,G	H	B,D
Calcium Hypochlorite (up to saturated)	A	A,B	A,B
Calcium Sulfate (up to saturated)	J,G	C,D	C,D
Carbolic Acid (concentrated)	J	J	J
Carbon Disulfide	J	J	J
Carbon Tetrachloride	J	J	J
Castor Oil	J	J	N
Caustics: Lime (up to saturated) Potash (up to 50%) Soda	A	A	B,D
Chlorinated Hydrocarbons	J	J	J
Chromic Acid (up to 40%)	E	E	E
Citric Acid (up to 10%)	J	J	E,M
Cocoa Fatty Acids	J	J	J

FOR GENERAL RESISTANCE TO:	USE THESE UCILON COATING SYSTEMS FOR:		
	CONTINUOUS CONTACT	SPLASHING OR SPILLAGE	FUME OR PRESENCE IN ATMOSPHERE
Molasses	J,F	J,F	J,F
Neutral Spirits	J,F	J,F	J,F
Nickel Chloride (up to saturated)	J,G	C,D	C,D
Nickel Sulfate	J,G	C,D	C,D
Oleic Acid	J,E	J,E	J,E
Orange Juice	J,F	J,F	J,F
Outdoor Exposure	L,N,E	L,N,E	L,N,E
Palmitic Acid	J,E	J,E	J,E
Perfume Oils	J	J	J
Permanganates (Sodium, Potassium)	E	E	E
Peroxide, Hydrogen (up to 100%)	J,E	J,E	J,E
Phenol	J	J	J
Phosphoric Acid (all concentrations)	C,D	C,D	C,D
Pine Oil	J	J	J
Potassium Chloride (up to saturated)	G	C	B
Potassium Hydroxide (up to 50%)	A	A	A
Potassium Permanganate	E	E	E
Salt Spray	G,E	G,M	G,M,E
Sea Water	G,E	G,M	G,E,M
Sewage	G,H	D,E	D,E
Soaps	A,E	A,B	B
Sodium Acid Sulfate (up to saturated)	E,D	E,D	E,D
Sodium Bicarbonate (up to saturated)	E,C	E,C	E,C
Sodium Cyanide	E	E	E
Sodium Hydroxide (up to 50%)	A	E	E,D
Sodium Perborate (up to saturated)	E	E	E
Sodium Permanganate	E	E	E
Sodium Peroxide (up to 10%)	E	E	E

FOR GENERAL RESISTANCE TO:	USE THESE UCILON COATING SYSTEMS FOR:		
	CONTINUOUS CONTACT	SPLASHING OR SPILLAGE	FUME OR PRESENCE IN ATMOSPHERE
Glue	J	J	J
Glycerin	E	E	E
Glyoxal	J	J	J
Gin	J,F	J,F	J,F
Grapefruit Juice	J,F	J,F	J,F
Greases	All	All	All
Hydrochloric Acid (up to 50%)	J,D	J,D	J,D
Hydrofluoric Acid (up to 20%)	J,D	J,D	J,D
Hydrogenated Compounds (nut oils, etc.)	J,E	J,E	J,E
Hydrogen Sulfide	E	E	B,E
"Hypo" (up to saturated) Sodium Thiosulfate	E	E	E
Iodine (tincture)	E	E	E
Isopropyl Alcohol	J,E	E,D	N
Ketones	J	J	J
Lacquer Solvents	J	J	J
Lactic Acid (up to 50%)	J,E	J,E	N
Lard	J,F	J,F	J,F
Latex	C,M	C,M	C,M
Linseed Oil	J,E	J,E	J,E
Malt Extract	J,F	J,F	J,F
Margarines	J,F	J,F	J,F
Mayonnaise	J,F	J,F	J,F
Methyl Alcohol	J,E	E,D	N
Milk	J,F	J,F	J,F
Mineral Oil (potable)	J,F	J,F	J,F
Mineral Oil (general)	J,E	J,E	J,E
Moisture	G,M	G,M	G,M

UCILON* SYSTEM A

Instructions for Coating Metal using UCILON PRIMER 405-P and UCILON 400

Ucilon System A is composed of a prime coat of Ucilon Primer 405-P and top coats of Ucilon 400. Ucilon Primer 405-P is a yellowish, chromate-type metal primer with low hiding power. Ucilon 400 is a vinyl-base top coat material which is available in a variety of attractive colors suitable for carrying out functional color schemes.

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon Primer 405-P and Ucilon 400 at temperatures above 60 F. These materials may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, keep containers of Ucilon Primer 405-P, Ucilon 400 and Ucilon Thinner 400-T covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System A is not recommended where wet temperatures above 165 F or dry temperatures above 200 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

To determine whether the coatings in this system can be applied over old paint successfully, apply Ucilon 400 to a small test area of the old paint. If the old paint bleeds, wrinkles, swells, or loses adherence, it must be removed before applying the Ucilon coatings. If the old paint shows none of these effects after the test, you may apply the Ucilon coatings over the old paint. First remove all loose particles, oil, grease, dirt, and moisture, and then follow the directions, starting with step 3.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon Primer 405-P and Ucilon 400 at temperatures of 70 F or slightly higher.

Stir both Ucilon Primer 405-P and Ucilon 400 thoroughly before using.

When applying Ucilon Primer 405-P and Ucilon 400 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 400 makes brushing easier.

If Ucilon 400 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 400-T to clean Ucilon Primer 405-P and Ucilon 400 from brushes, spray guns, and other equipment.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

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INSTRUCTIONS FOR APPLICATION

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Etch surface with a phosphoric acid type cleaner. 5) Rinse with water.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Apply 1 Unit Coat of Ucilon Primer 405-P* without delay. A Unit Coat of Ucilon Primer 405-P is obtained by applying it so that one gallon covers 250 to 275 square feet. It is important that Ucilon Primer 405-P be stirred thoroughly.

Brushing: When applying by brushing, use Ucilon Primer 405-P full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon Primer 405-P with 1 part Ucilon Thinner 400-T.

Dipping: When applying by dipping, use Ucilon Primer 405-P full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

4. Allow the primer to air-dry at least one hour. Allow more time if application is inside a tank or closed space.

5. Apply the required number of Unit Coats of Ucilon 400. A Unit Coat of Ucilon 400 is obtained by applying it so that one gallon covers 300 square feet. Apply 2 Unit Coats for general maintenance; 2 or 3 to the outside of equipment subjected to vapors and splashings of corrosive liquids; 4 or 5 to the interior of equipment holding corrosive liquids and vapors.

Brushing: When applying by brushing, use Ucilon 400 full-bodied. For thinning, if required, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of pigmented Ucilon 400 with 1 part of Ucilon Thinner 400-T. Thin clear Ucilon 400, using 1 part of Ucilon 400 to 1 part of Ucilon Thinner 400-T.

Dipping: When applying by dipping, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

6. Air-dry or force-dry each coat of Ucilon 400. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 150 to 200 F.† Sagging may occur at temperatures above 200 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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* Ucilon Primer 405-P contains a chromate rust inhibitor. It should not be used where it can come in direct contact with edible products.

† If higher baking temperatures are desired, write for special instructions.

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UCILON* SYSTEM B

Instructions for Coating Concrete and Metals using UCILON INTERCOAT 421-B and UCILON 400 for CONCRETE and UCILON PRIMER 405-P, UCILON INTERCOAT 421-B and UCILON 400 for METALS

Ucilon System B is used for coating both concrete and metals. When coating concrete, application of Ucilon Intercoat 421-B, which produces a more scuff-resistant coating and improves adhesion, is optional. This system is recommended for air-drying applications on hard-to-clean metals, producing a high degree of adhesion and toughness.

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon Primer 405-P, Ucilon Intercoat 421-B and Ucilon 400 at temperatures above 60 F. These materials may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, containers of Ucilon Primer 405-P, Ucilon Intercoat 421-B, Ucilon 400 and Ucilon Thinner 400-T should be kept covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System B is not recommended where wet† temperatures above 165 F or dry temperatures above 200 F will be encountered. However, with some chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

To determine whether the coatings in this system can be applied over old paint successfully, apply Ucilon 400 to a small test area of the old paint. If the old paint bleeds, wrinkles, swells, or loses adherence, it must be removed before applying the Ucilon coatings. If the old paint shows none of these effects after the test, you may apply the Ucilon coatings over the old paint. First remove all loose particles, oil, grease, dirt, and moisture, and then follow the directions, starting with step 3 when coating metals. When coating concrete start with step 5 when Ucilon Intercoat 421-B is to be used and start with step 7 when Ucilon Intercoat 421-B is not to be used.

†See first paragraph under INSTRUCTIONS FOR APPLICATION on page 2.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon Primer 405-P, Ucilon Intercoat 421-B and Ucilon 400 at temperatures of 70 F or slightly higher.

Stir Ucilon Primer 405-P, Ucilon Intercoat 421-B and Ucilon 400 thoroughly before using.

When applying Ucilon Primer 405-P, Ucilon Intercoat 421-B and Ucilon 400 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 400 makes brushing easier.

If Ucilon 400 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 400-T to clean Ucilon Primer 405-P, Ucilon Intercoat 421-B and Ucilon 400 from brushes, spray guns, and other equipment.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

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INSTRUCTIONS FOR APPLICATION

When coating concrete, steps 5 and 6 concerning the application of Intercoat 421-B, are optional. Intercoat 421-B should never be used where the coatings will be continually submerged.

1. Clean the surface.

CONCRETE: Sweep or brush surface to remove all dirt and loose particles. Remove oil and grease by scrubbing with trisodium phosphate or a suitable proprietary cleaner.

Rinse thoroughly with clean water, and while the surface is still wet sprinkle with sodium acid sulfate powder, using 10 to 12 ounces of powder per 100 square feet. Then scrub the surface thoroughly with a stiff brush. (If powder cannot be sprinkled because the surface being treated is a wall or ceiling, scrub the surface with a 15 to 20% solution of sodium acid sulfate in water. Mix this solution in a rubber or an enameled pail.)

Allow the surface to dry for 24 hours. Do not rinse after the sodium acid sulfate treatment.

METAL: Remove all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Etch surface with a phosphoric acid type cleaner. 5) Rinse with water.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Prime the surface.

CONCRETE: Apply one prime coat of Ucilon 400 thinned 1 part Ucilon 400 to 1 part Ucilon Thinner 400-T. Coverage will vary between 200 and 250 square feet per gallon.

METAL: Apply 1 Unit Coat of Ucilon Primer 405-P* without delay. A Unit Coat of Ucilon Primer 405-P is obtained by applying it so that one gallon covers 250 to 275 square feet. It is important that Ucilon Primer 405-P be stirred thoroughly.

Brushing: When applying by brushing, use Ucilon Primer 405-P full bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon Primer 405-P with 1 part Ucilon Thinner 400-T.

4. Allow the primer to air-dry at least one hour. Allow more time if application is inside a tank or closed space.

5. Apply one Unit Coat of Ucilon Intercoat 421-B. A Unit Coat of Ucilon Intercoat 421-B is obtained by applying it so that one gallon covers 120 square feet.

Brushing: When applying by brushing, thin 8 parts of Ucilon Intercoat 421-B with 1 part of Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 4 parts of Ucilon Intercoat 421-B with 1 part of Ucilon Thinner 400-T.

6. Allow the Ucilon Intercoat 421-B to air-dry for at least one hour and preferably for 5 or more hours.

7. Apply the required number of Unit Coats of Ucilon 400. A Unit Coat of Ucilon 400 is obtained by applying it so that one gallon covers 300 square feet. On concrete, apply 3 Unit Coats for general maintenance; 5 or more to surfaces that will be continually in contact with liquids. On metal, apply 2 Unit Coats for general maintenance; 2 or 3 to the outside of equipment subjected to vapors and splashings of corrosive liquids; 4 or 5 to the interior of equipment holding corrosive vapors.

Brushing: When applying by brushing, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon 400 with 1 part of Ucilon Thinner 400-T.

8. Air-dry the first coat of Ucilon 400 for at least 2 to 3 hours. Air-dry subsequent top coats for 1 hour and the final coat at least 48 hours, and preferably a week, before putting in service.

* Ucilon Primer 405-P contains a chromate rust inhibitor. It should not be used where it can come in direct contact with edible products.

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UCILON* SYSTEM C

Instructions for Coating Metal

using

UCILON 440, UCILON 451, and UCILON 400

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon 451 and Ucilon 400 at temperatures above 60 F. These materials may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use keep containers of Ucilon 440, Ucilon 451 (Part A and Part B), Ucilon 400, and their thinners covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System C is not recommended where wet temperatures above 140 F or dry temperatures above 160 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

To determine whether the coatings in this system can be applied over old paint successfully, apply Ucilon 400 to a small test area of the old paint. If the old paint bleeds, wrinkles, swells, or loses adherence, it must be removed before applying the Ucilon coatings. If the old paint shows none of these effects after the test, you may apply the Ucilon coatings over the old paint. First remove all loose particles, oil, grease, dirt, and moisture, and then follow the directions, starting with step 5.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon 440, Ucilon 451 and Ucilon 400 at temperatures of 70 F or slightly higher.

Stir Ucilon 400 thoroughly before using.

When applying Ucilon 440, Ucilon 451 and Ucilon 400 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 400 makes brushing easier.

If Ucilon 400 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 450-T to clean Ucilon 440 and Ucilon 451 from brushes, spray guns, and other equipment. Use Ucilon Thinner 400-T for cleaning Ucilon 400.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

*Trade-Mark Reg. U.S. Pat. Off.

INSTRUCTIONS FOR APPLICATION

Steps 3 and 4, concerning Ucilon 440, are optional. Application of Ucilon 440 forms an organic phosphate coating on the metal and improves the adherence of the film to the metal. Before deciding whether you will or will not apply Ucilon 440, consult the Technical Service Department of United Chromium, Incorporated.

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Either apply Ucilon 440 as called for in Instruction 3 below or etch the surface with a phosphoric acid type cleaner. 5) If a phosphoric acid type cleaner is used, rinse surface with water after treatment.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply one Unit Coat of Ucilon 440 by brushing or spraying. A Unit Coat of Ucilon 440 is obtained by applying it so that one gallon covers from 350 to 500 square feet.

Ucilon 440 consists of two parts, Part A and Part B. Prepare Ucilon 440 for application by mixing 2 parts by volume of Part A with 1 part by volume of Part B. Mix no more than will be used in the next 8 hours.

4. Allow the Ucilon 440 to dry for 30 to 60 minutes.

5. Apply 1 Unit Coat of Ucilon 451. A Unit Coat of Ucilon 451 is obtained by applying it so that one gallon covers 225 to 250 square feet.

Ucilon 451 consists of 2 parts. Part A is a milky vehicle; Part B is an aluminum paste. Stir both parts before mixing them together. Then mix 10 parts by volume of Part A with 1 part by volume of Part B. (The two Parts are delivered in these proportions.) Mix no more material than will be used in the next 8 hours. The container of mixed material should not be covered tightly as there is some gas formation.

Brushing: When applying by brushing, use Ucilon 451 as mixed. If thinning is necessary, use Ucilon Thinner 450-T.

Spraying: When applying by spraying, thin 3 parts of mixed Ucilon 451 with 1 part of Ucilon Thinner 450-T.

6. Allow the Ucilon 451 to dry for at least one hour. Allow more time if application is inside a tank or closed space.

7. Apply the required number of Unit Coats of Ucilon 400. A Unit Coat of Ucilon 400 is obtained by applying it so that one gallon covers 300 square feet. Apply 2 Unit Coats for general maintenance; 2 or 3 to the outside of equipment subjected to vapors and splashings of corrosive liquids; 4 or 5 to the interior of equipment holding corrosive liquids and vapors.

Brushing: When applying by brushing, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of pigmented Ucilon 400 with 1 part of Ucilon Thinner 400-T. Thin clear Ucilon 400, using 1 part of Ucilon 400 to 1 part of Ucilon Thinner 400-T.

Dipping: When applying by dipping, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

8. Air-dry or force-dry each coat of Ucilon 400. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 125 to 150 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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UCILON* SYSTEM D

Instructions for Coating Metal

using

UCILON 440, UCILON 452, and UCILON 400

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon 452 and Ucilon 400 at temperatures above 60 F. These materials may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, keep containers of Ucilon 440, Ucilon 452 and Ucilon 400 and their thinners covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System D is not recommended where wet temperatures above 140 F or dry temperatures above 160 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

To determine whether the coatings in this system can be applied over old paint successfully, apply Ucilon 400 to a small test area of the old paint. If the old paint bleeds, wrinkles, swells, or loses adherence, it must be removed before applying the Ucilon coatings. If the old paint shows none of these effects after the test, you may apply the Ucilon coatings over the old paint. First remove all loose particles, oil, grease, dirt, and moisture, and then follow the directions, starting with step 5.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon 440, Ucilon 452 and Ucilon 400 at temperatures of 70 F or slightly higher.

Stir Ucilon 452 and Ucilon 400 thoroughly before using.

When applying Ucilon 440, Ucilon 452 and Ucilon 400 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 400 makes brushing easier.

If Ucilon 400 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 450-T to clean Ucilon 440 and Ucilon 452 from brushes, spray guns and other equipment. Use Ucilon Thinner 400-T for cleaning Ucilon 400.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

*Trade-Mark Reg. U.S. Pat. Off.

INSTRUCTIONS FOR APPLICATION

Steps 3 and 4, concerning Ucilon 440, are optional. Application of Ucilon 440 forms an organic phosphate coating on the metal and improves the adherence of the film to the metal. Before deciding whether you will or will not apply Ucilon 440, consult the Technical Service Department of United Chromium, Incorporated.

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Either apply Ucilon 440 as called for in Instruction 3 below or etch the surface with a phosphoric acid type cleaner. 5) If a phosphoric acid type cleaner is used, rinse surface with water after treatment.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply one Unit Coat of Ucilon 440 by brushing or spraying. A Unit Coat of Ucilon 440 is obtained by applying it so that one gallon covers from 350 to 500 square feet.

Ucilon 440 consists of two parts, Part A and Part B. Prepare Ucilon 440 for application by mixing 2 parts by volume of Part A with 1 part by volume of Part B. Mix no more than will be used in the next 8 hours.

4. Allow the Ucilon 440 to dry for 30 to 60 minutes.

5. Apply 1 Unit Coat of Ucilon 452. A Unit Coat of Ucilon 452 is obtained by applying it so that one gallon covers 225 to 250 square feet.

Brushing: When applying by brushing, use Ucilon 452 full-bodied. If thinning is necessary, use Ucilon Thinner 450-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon 452 with 1 part of Ucilon Thinner 450-T.

6. Allow the Ucilon 452 to dry for at least one hour. Allow more time if application is inside a tank or closed space.

7. Apply the required number of Unit Coats of Ucilon 400. A Unit Coat of Ucilon 400 is obtained by applying it so that one gallon covers 300 square feet. Apply 2 Unit Coats for general maintenance; 2 or 3 to the outside of equipment subjected to vapors and splashings of corrosive liquids; 4 or 5 to the interior of equipment holding corrosive liquids and vapors.

Brushing: When applying by brushing, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of pigmented Ucilon 400 with 1 part of Ucilon Thinner 400-T. Thin clear Ucilon 400, using 1 part of Ucilon 400 to 1 part of Ucilon Thinner 400-T.

Dipping: When applying by dipping, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

8. Air-dry or force-dry each coat of Ucilon 400. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 125 to 150 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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UCILON* SYSTEM E

Instructions for Coating Metal

using

UCILON 440, UCILON 460, and UCILON 400

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon 460 and Ucilon 400 at temperatures above 60 F. These materials may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, keep containers of Ucilon 440, Ucilon 460, and Ucilon 400 and their thinners covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System E is not recommended where wet temperatures above 165 F or dry temperatures above 200 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon 440, Ucilon 460, and Ucilon 400 at temperatures of 70 F or slightly higher.

Stir Ucilon 460 and Ucilon 400 thoroughly before using.

When applying Ucilon 440, Ucilon 460, and Ucilon 400 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 400 makes brushing easier.

If Ucilon 400 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 400-T or Ucilon Thinner 450-T to clean Ucilon 440 from brushes, spray guns and other equipment. Use Ucilon Thinner 460-T to clean Ucilon 460, and Ucilon Thinner 400-T to clean Ucilon 400.

UNIT COAT

The success of this and all other Ucilon coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

*Trade-Mark Reg. U.S. Pat. Off.

INSTRUCTIONS FOR APPLICATION

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply one Unit Coat of Ucilon 440 by brushing or spraying. A Unit Coat of Ucilon 440 is obtained by applying it so that one gallon covers from 350 to 500 square feet.

Ucilon 440 consists of two parts, Part A and Part B. Prepare Ucilon 440 for application by mixing 2 parts by volume of Part A with 1 part by volume of Part B. Mix no more than will be used in the next 8 hours.

4. Allow the Ucilon 440 to dry for 30 to 60 minutes.

5. Apply 1 or 2 Unit Coats of Ucilon 460. A Unit Coat of Ucilon 460 is obtained by applying it so that one gallon covers 225 to 250 square feet.

L/DH

Brushing: When applying by brushing, use Ucilon 460 full-bodied. If thinning is necessary, use Ucilon Thinner 460-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon 460 with 1 part of Ucilon Thinner 460-T.

6. Allow each coat of Ucilon 460 to dry for 1 hour.

7. Apply the required number of Unit Coats of Ucilon 400. A Unit Coat of Ucilon 400 is obtained by applying it so that one gallon covers 300 square feet. Apply 2 Unit Coats for general maintenance; 2 or 3 to the outside of equipment subjected to vapors and splashings of corrosive liquids; 4 or 5 to the interior of equipment holding corrosive liquids and vapors.

Brushing: When applying by brushing, use Ucilon 400 full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of pigmented Ucilon 400 with 1 part of Ucilon Thinner 400-T.

8. Air-dry or force-dry each coat of Ucilon 400. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 125 to 150 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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UCILON* SYSTEM F

Instructions for Coating Metal

using

UCILON F

This System should be used only for applications where the coating will come in contact with edible products.

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon F at temperatures above 60 F. It may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, keep containers of Ucilon F and Ucilon Thinner 400-T covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System F is not recommended where wet temperatures above 165 F or dry temperatures above 200 F will be encountered. However, with some base metals and food chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon F at temperatures of 70 F or slightly higher.

Stir Ucilon F thoroughly before using.

When applying Ucilon F by brushing, use a full brush. Flow the material with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon F makes brushing easier.

If Ucilon F sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 400-T to clean Ucilon F from brushes, spray guns, and other equipment.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

*Trade-Mark Reg. U.S. Pat. Off.

INSTRUCTIONS FOR APPLICATION

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. Sandblasting or shotblasting is strongly recommended. Flame cleaning followed by wire brushing or scraping gives good results also. If sandblasting or flame cleaning are not feasible, a cleaning procedure consisting of the following steps may be employed: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Etch surface with a phosphoric acid type cleaner. 5) Rinse with water.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply the first of the required number of Unit Coats of Ucilon F. A Unit Coat of Ucilon F is obtained by applying it so that one gallon covers 300 square feet. Apply 2 Unit Coats for general maintenance and for lining drums; 2 or 3 to the outside of equipment subjected to vapors and frequent splashing; 4 or 5 Unit Coats to the interior of equipment holding edible products.

L/DH

Brushing: When applying by brushing, use Ucilon F full-bodied. If thinning is necessary, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon F with 1 part of Ucilon Thinner 400-T. Use spraying in all drum lining applications.

4. Air-dry or force-dry each coat of Ucilon F. There is some solvent retention when coatings are air-dried and as a result the coatings may have a slight odor and taste. Therefore, force-drying is essential when the coatings are required to be absolutely free of odor and taste.

Air-drying: Air-dry each coat at least 1 hour and final coat at least 24 hours, and preferably a week, before putting into service.

Force-drying: In drum lining applications, air-dry the first coat at least 10 minutes and force-dry the second coat for 20 minutes at 250 F. For applications where more than two coats have been applied, air-dry each coat at least 1 hour and then force-dry the final coat 2 to 5 hours at 200 F. Avoid temperatures above 200 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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UCILON SYSTEM G*

Instructions for Coating Metal using UCILON 440 and UCILON 451

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon 451 at temperatures above 60 F. It may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, keep containers of Ucilon 440, Ucilon 451 (Part A and Part B) and their thinners tightly covered to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System G is not recommended where wet temperatures above 140 F or dry temperatures above 160 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon 440 and Ucilon 451 at temperatures of 70 F or slightly higher.

When applying Ucilon 440 and Ucilon 451 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots.

Use Ucilon Thinner 450-T to clean Ucilon 440 and Ucilon 451 from brushes, spray guns, and other equipment.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

INSTRUCTIONS FOR APPLICATION

Steps 3 and 4, concerning Ucilon 440, are optional. Application of Ucilon 440 forms an organic phosphate coating on the metal and improves the adherence of the film to the metal. Before deciding whether you will or will not apply Ucilon 440, consult the Technical Service Department of United Chromium, Incorporated.

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Either apply Ucilon 440 as called for in Instruction 3 below or etch the surface with a phosphoric acid type cleaner. 5) If a phosphoric acid type cleaner is used, rinse surface with water after treatment.

*Trade-Mark Reg. U.S. Pat. Off.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply one Unit Coat of Ucilon 440 by brushing or spraying. A Unit Coat of Ucilon 440 is obtained by applying it so that one gallon covers from 350 to 500 square feet.

Ucilon 440 consists of two parts, Part A and Part B. Prepare Ucilon 440 for application by mixing 2 parts by volume of Part A with 1 part by volume of Part B. Mix no more than will be used in the next 8 hours.

4. Allow the Ucilon 440 to dry for 30 to 60 minutes.

5. Apply 4 Unit Coats of Ucilon 451. A Unit Coat of Ucilon 451 is obtained by applying it so that one gallon covers 225 to 250 square feet.

Ucilon 451 consists of 2 parts. Part A is a milky vehicle; Part B is an aluminum paste. Stir both parts before mixing them together. Then mix 10 parts by volume of Part A with 1 part by volume of Part B. (The two Parts are delivered in these proportions.) Mix no more material than will be used in the next 8 hours. The container of mixed material should not be covered tightly as there is some gas formation.

Brushing: When applying by brushing, use Ucilon 451 as mixed. If thinning is necessary, use Ucilon Thinner 450-T.

Spraying: When applying by spraying, thin 3 parts of mixed Ucilon 451 with 1 part of Ucilon Thinner 450-T.

6. Air-dry or force-dry each coat of Ucilon 451. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 125 to 150 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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UCILON SYSTEM H

Instructions for Coating Metal

using

UCILON 440 and UCILON 452

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon 452 at temperatures above 60 F. It may thicken or even gel at lower temperatures. If gelling occurs, warm it (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, keep containers of Ucilon 440, Ucilon 452 and their thinners tightly covered to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System H is not recommended where wet temperatures above 140 F or dry temperatures above 160 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon 440 and Ucilon 452 at temperatures of 70 F or slightly higher.

Stir Ucilon 452 thoroughly before using.

When applying Ucilon 440 and Ucilon 452 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots.

Use Ucilon Thinner 450-T to clean Ucilon 440 and Ucilon 452 from brushes, spray guns and other equipment.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

INSTRUCTIONS FOR APPLICATION

Steps 3 and 4, concerning Ucilon 440, are optional. Application of Ucilon 440 forms an organic phosphate coating on the metal and improves the adherence of the film to the metal. Before deciding whether you will or will not apply Ucilon 440, consult the Technical Service Department of United Chromium, Incorporated.

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc. 4) Either apply Ucilon 440 as called for in Instruction 3 below or etch the surface with a phosphoric acid type cleaner. 5) If a phosphoric acid type cleaner is used, rinse surface with water after treatment.

*Trade-Mark Reg. U.S. Pat. Off.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply one Unit Coat of Ucilon 440 by brushing or spraying. A Unit Coat of Ucilon 440 is obtained by applying it so that one gallon covers from 350 to 500 square feet.

Ucilon 440 consists of two parts, Part A and Part B. Prepare Ucilon 440 for application by mixing 2 parts by volume of Part A with 1 part by volume of Part B. Mix no more than will be used in the next 8 hours.

4. Allow the Ucilon 440 to dry for 30 to 60 minutes.

5. Apply 4 Unit Coats of Ucilon 452. A Unit Coat of Ucilon 452 is obtained by applying it so that one gallon covers 225 to 250 square feet.

Brushing: When applying by brushing, use Ucilon 452 full-bodied. If thinning is necessary, use Ucilon Thinner 450-T.

Spraying: When applying by spraying, thin 3 parts of mixed Ucilon 452 with 1 part of Ucilon Thinner 450-T.

6. Air-dry or force-dry each coat of Ucilon 452. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 125 to 150 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

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UCILON* SYSTEM J

Instructions for Coating Metal using UCILON 1501

GENERAL INSTRUCTIONS

STORAGE

When not in use, keep containers of Ucilon 1501 and Ucilon Thinner 1501-T covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

Stir Ucilon 1501 thoroughly before using.

Use Ucilon Thinner 1501-T to clean Ucilon 1501 from brushes, spray guns and other equipment.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for 10 minutes and then bake it at 300 F for 10 to 15 minutes. Then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

INSTRUCTIONS FOR APPLICATION

1. Remove all rust, scale, loose oxide, oil, grease, and dirt from the surface.

Preparing Iron and Steel: Sandblast or shotblast the surface whenever possible. If blasting is not feasible, remove scale and rust by pickling or by treatment with any good metal preparation compound. Hydrogen absorbed as a result of acid etching should be driven out by heating the metal to a temperature higher than that used in baking Ucilon 1501.

Preparing Cadmium and Zinc: Treat zinc and cadmium with Unichrome Olive Drab Dip or give them a phosphating treatment.

Preparing Magnesium and Aluminum: Magnesium and aluminum should either be anodized or given a chemical pre-treatment.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Apply the required number of Unit Coats of Ucilon 1501. A Unit Coat of Ucilon 1501 is obtained by applying it so that one gallon covers 375 to 450 square feet. Apply 1 Unit Coat for mild, corrosive conditions; 3 Unit Coats when the surface is to be submerged or continually in contact with liquids; 5 Unit Coats to resist electrolytic corrosion such as is found in oil well piping.

Spraying: When applying by spraying, thin 3 parts of Ucilon 1501 with 1 part of Ucilon Thinner 1501-T. Pressures from 25 to 60 pounds are satisfactory.

Dipping: Thin Ucilon 1501 with Ucilon Thinner 1501-T as desired to produce a drip-free coating. Excess drainage and beads should be removed.

4. Air-dry and bake each coat of Ucilon 1501. When only 1 coat has been applied, bake the coating at 350 to 375 F for 60 minutes.† When more than 1 coat has been applied, each coat except the final one should be air-dried for 10 minutes and then baked at 300 F for 10 to 15 minutes. The final coat should be baked at 350 to 375 F for 60 minutes.

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† Consult the Technical Service Department of United Chromium, Incorporated for baking schedules other than that indicated.

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UCILON* SYSTEM L

Instructions for Coating Metal and Wood

using

UCILON 1601

Ucilon 1601 is a ready-mixed aluminum paint compounded with oil base materials which give a coating having excellent resistance to outdoor exposure. It produces an extra-bright coating which maintains its brightness and protective qualities after prolonged exposure to sunlight, rain, and cold. Ucilon 1601 withstands continuous temperatures up to 450 F and intermittent temperatures up to 550 F.

GENERAL INSTRUCTIONS

Stir Ucilon 1601 thoroughly before using.

Ucilon 1601 can be applied over previously primed or painted surfaces when the old paint has good adherence to the surface beneath it. All non-adherent patches must be removed before applying Ucilon 1601. It can also be applied directly over metal with adherent oxide and scale.

Since Ucilon 1601 dries by oxidation, force-drying or baking has little effect on its drying time.

Use Ucilon Thinner 1601-T to clean Ucilon 1601 from brushes, spray guns and other equipment.

INSTRUCTIONS FOR APPLICATION

1. Clean the surface, removing all loose particles of rust and old paint. Bare galvanized metal should be given either a treatment in Unichrome Olive Drab Dip, a phosphoric acid etch, or vinegar wash.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Apply 1 or 2 coats of Ucilon 1601.

Brushing: When applying by brushing, use Ucilon 1601 full-bodied. If thinning is necessary, use Ucilon Thinner 1601-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon 1601 with 1 part of Ucilon Thinner 1601-T.

Dipping: When applying by dipping, use Ucilon 1601 full-bodied or thin it as much as 2 parts Ucilon 1601 to 1 part Ucilon Thinner 1601-T.

4. Allow 24 to 48 hours of air-drying between coats. A week or more is required before the final coat reaches ultimate hardness.

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UCILON* SYSTEM M

Instructions for Coating Metal using UCILON 440 and UCILON 480

Ucilon System M is composed of a wash primer, Ucilon 440 and top coats of Ucilon 480. Ucilon 440 forms an organic phosphate coating with low hiding power. On steel or dark metals, it has a yellowish-green appearance, while it has a light yellow appearance on aluminum and other bright metals. Ucilon 480, which is pigmented with stainless steel, produces a gray metallic coating with excellent hiding power.

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon 480 at temperatures above 60 F. It may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, containers of Ucilon 440, Ucilon 480, and their thinners should be covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

In general, Ucilon System M is not recommended where wet temperatures above 165 F or dry temperatures above 200 F will be encountered. However, with some base metals and chemicals, these temperature limitations may be exceeded. Write to the Technical Service Department of United Chromium, Incorporated for recommendations concerning applications involving higher temperatures.

To determine whether the coatings in this system can be applied over old paint successfully, apply Ucilon 480 to a small test area of the old paint. If the old paint bleeds, wrinkles, swells, or loses adherence, it must be removed before applying the Ucilon coatings. If the old paint shows none of these effects after the test, you may apply the Ucilon coatings over the old paint. First remove all loose particles, oil, grease, dirt, and moisture, and then follow the directions, starting with step 3.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon 440 and Ucilon 480 at temperatures of 70 F or slightly higher.

Stir Ucilon 480 thoroughly before and during use. The pigment in this coating is heavy and will settle unless stirred frequently during use.

When applying Ucilon 440 and Ucilon 480 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 480 makes brushing easier.

If Ucilon 480 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 450-T to clean Ucilon 440 from brushes, spray guns and other equipment. Ucilon 480 can be cleaned from equipment with Ucilon Thinner 480-T, Ucilon Thinner 460-T, or Ucilon Thinner 400-T.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

*Trade-Mark Reg. U.S. Pat. Off.

INSTRUCTIONS FOR APPLICATION

1. Clean the surface, removing all scale, rust, oil, grease, moisture, and dirt. If it can be used, sandblasting or shotblasting is recommended. Flame cleaning followed by wire brushing or scraping also gives good results. Also satisfactory for milder conditions is a procedure consisting of these steps: 1) Wash surface with an alkaline cleaner, such as trisodium phosphate, to remove oil and grease. 2) Rinse with water. 3) Wire brush or scrape to remove rust, dirt, etc.

Sandblasting or shotblasting is especially recommended where the coating is to be used as a tank or drum lining or where the coating must withstand extremely corrosive conditions.

2. Inspect the surface to make sure that all oil, grease, and moisture have been removed.

3. Without delay apply one Unit Coat of Ucilon 440 by brushing or spraying. A Unit Coat of Ucilon 440 is obtained by applying it so that one gallon covers from 350 to 500 square feet.

Ucilon 440 consists of two parts, Part A and Part B. Prepare Ucilon 440 for application by mixing 2 parts by volume of Part A with 1 part by volume of Part B. Mix no more than will be used in the next 8 hours.

4. Allow the Ucilon 440 to dry for 30 to 60 minutes.

5. Apply the required number of Unit Coats of thoroughly mixed Ucilon 480. A Unit Coat of Ucilon 480 is obtained by applying it so that one gallon covers 225 to 250 square feet. Apply 2 Unit Coats for general maintenance and to the outside of equipment subjected to vapors and splashings of corrosive liquids; apply 3 Unit Coats to the interior of equipment holding corrosive liquids and vapors.

Brushing: When applying by brushing, use Ucilon 480 full-bodied. If thinning is necessary, use Ucilon Thinner 480-T.

Spraying: When applying by spraying, thin 3 parts of Ucilon 480 with 1 part of Ucilon Thinner 480-T. (If Ucilon Thinner 480-T is not available, use Ucilon Thinner 460-T or Ucilon Thinner 400-T.)

6. Air-dry or force-dry each coat of Ucilon 480. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 10 hours at 150 to 200 F. Sagging may occur at temperatures above 200 F. Ovens, infrared lamps, and forced hot air circulation are satisfactory.

NOTE: Where a color other than that of Ucilon 480 is desired, apply a coat of Ucilon 400 in the color desired over the Ucilon 480.

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UCILON† SYSTEM N

Instructions for Coating Metal, Wood, Concrete, Brick using UCILON 1701

Ucilon System N is a general maintenance system used where a coating with excellent durability in normal industrial atmospheres is required. It can be used over old paint and rusty surfaces without meticulous surface preparation. Ucilon 1701, the material used in this system, is a coating of the chlorinated rubber type which can be applied directly without priming. It has excellent hiding power and is available in a large number of colors suitable for carrying out functional color schemes.

GENERAL INSTRUCTIONS

STORAGE

When not in use, containers of Ucilon 1701 and Ucilon Thinner 1701-T should be covered tightly to avoid evaporation of solvents. As with all paints, they should be stored in compliance with Underwriter's Specifications. Ucilon 1701 is not classified as "red label" material.

USE

Ucilon 1701 is a general maintenance coating and, as such, should not be used as a tank lining. The coating will withstand acid and mild alkali fumes and other corrosives present in the atmosphere provided the concentrations of these corrosives are low enough to permit a man to work without a respirator. It can be applied to old steel, iron, other metals, wood, concrete, and brick. It will withstand temperatures up to 130 F.

Ucilon 1701 can be applied over metal with adherent oxide and scale* and also over previously primed or painted surfaces when the old paint has good adherence to the surface beneath it. If nonadherent patches of paint are found, they should be removed before applying Ucilon 1701.

Provide normal ventilation to prevent concentration of vapors in the working area. No precautions other than those taken for ordinary painting are required.

For best results, apply Ucilon 1701 at temperatures of 70 F or slightly higher.

When thinning Ucilon 1701 or cleaning application equipment, use Ucilon Thinner 1701-T.

COVERAGE

When applied by brushing or spraying, the coverage of Ucilon 1701 will vary between 350 and 500 square feet per gallon per coat. One or two coats are sufficient for most applications.

*To increase the service life of the coating on metal, Ucilon 441 may be applied to form an organic phosphate coating. Ucilon 441 consists of two parts, Ucilon 441 Solution and Ucilon 441 Accelerator, which must be mixed together immediately prior to application. The pigment in Ucilon 441 Solution should be stirred up, and the contents of Ucilon 441 Accelerator should be thoroughly shaken before the two parts are mixed together. The mixing proportion is 4 parts Ucilon 441 Solution to 1 part Ucilon 441 Accelerator. The designation for the mixed material is "catalyzed" Ucilon 441. Since "catalyzed" Ucilon 441 which has been mixed more than eight hours prior to application will not give satisfactory results, never mix more than will be used in the following eight hours. When applying by brushing, use "catalyzed" Ucilon 441 full bodied. When applying by spraying, thin 5 parts of "catalyzed" Ucilon 441 with 1 part Ucilon Thinner 441-T. Allow "catalyzed" Ucilon 441 to dry for 30 to 60 minutes before applying Ucilon 1701 over it.

INSTRUCTIONS FOR APPLICATION

1. Clean the surface.

Meticulous surface preparation is not required. However, all loose particles of scale, rust, paint, concrete, etc., as well as oil and grease should be removed. Scrubbing with a solution of trisodium phosphate or a suitable proprietary cleaner will remove the oil and grease. After this treatment the surface should be rinsed with clean water.

METAL: Remove loose scale, rust, old paint, oil, grease, and dirt.

† Trade-Mark Reg. U.S. Pat. Off.

CONCRETE: Remove oil and grease from surface.

The service life of Ucilon 1701 will be further increased if the concrete is neutralized before coating by scrubbing the concrete while still wet from the water rinse after the trisodium phosphate treatment with sodium acid sulfate powder (or a 15 to 20% solution of sodium acid sulfate in water that has been mixed in a rubber or enameled pail). When using the powder, use 10 to 12 ounces of powder per 100 square feet. Do not rinse after this treatment or paint for 24 hours.

WOOD and BRICK: Remove loose particles of old paint, oil, grease, and dirt.

2. Inspect the surface to make sure that it is free of oil, grease, and moisture.

3. Stir Ucilon 1701 thoroughly.

4. Apply 1 or 2 coats of Ucilon 1701 as required.

Brushing: Use Ucilon 1701 full-bodied. If thinning is necessary, use Ucilon Thinner 1701-T.

Spraying: Thin 3 parts of Ucilon 1701 with 1 part of Ucilon Thinner 1701-T.

5. Allow 24 hours of air-drying between coats. Although the coating dries tack free in 30 to 60 minutes, the second coat should not be applied for at least 24 hours.

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UCILON* SYSTEM W

Instructions for Coating Wood using UCILON PRIMER 413-P and UCILON 400

Ucilon System W is composed of a primer, Ucilon Primer 413-P, which is clear with an amber cast, and top coats of Ucilon 400 which can be obtained clear or in pigmented colors.

GENERAL INSTRUCTIONS

STORAGE

Store Ucilon Primer 413-P and Ucilon 400 at temperatures above 60 F. These materials may thicken or even gel at lower temperatures. If gelling occurs, warm the material (avoiding open flame) at 100 to 120 F with occasional stirring until it becomes liquid. Do not add thinner until after the liquid material has cooled.

When not in use, containers of Ucilon Primer 413-P, Ucilon 400, and their thinners should be covered tightly to avoid evaporation of solvents. Store them in compliance with Underwriter's Specifications for inflammable materials.

USE

Ucilon System W is recommended for indoor applications only.

To determine whether the coatings in this system can be applied over old paint successfully, apply Ucilon 400 to a small test area of the old paint. If the old paint bleeds, wrinkles, swells, or loses adherence, it must be removed before applying the Ucilon coatings. If the old paint shows none of these effects after the test, you may apply the Ucilon coatings over the old paint. First remove all loose particles, oil, grease, dirt, and moisture, and then follow the directions, starting with step 3.

Provide sufficient ventilation to prevent concentration of solvent vapors in the working area.

For best results, apply Ucilon Primer 413-P and Ucilon 400 at temperatures of 70 F or slightly higher.

Stir both Ucilon Primer 413-P and Ucilon 400 thoroughly before using.

When applying Ucilon Primer 413-P and Ucilon 400 by brushing, use a full brush. Flow the material on with a smooth stroke in one direction. Do not go back over wet areas as this may cause streaks and thin spots. Adding 6 to 10 ounces of Ucilon Retarder 400-RT to each gallon of Ucilon 400 makes brushing easier.

If Ucilon 400 sets too quickly when being sprayed, add a small amount of Ucilon Retarder 400-RT together with Ucilon Thinner 400-T in reducing for spray application.

Use Ucilon Thinner 413-PT to clean Ucilon Primer 413-P from brushes, spray guns and other equipment. Use Ucilon Thinner 400-T for cleaning Ucilon 400.

UNIT COAT

The success of this and all other Ucilon Coating Systems depends upon the thickness of the Ucilon films applied. In the instructions which follow, the term "Unit Coat" is used. A Unit Coat is a coat that has been applied in such thickness that one gallon of coating material (not counting any thinner that may be added) covers the area specified in the instructions. If material remains after coating the specified area, it means the coating has been spread too thin. In such a case, allow the material which has already been applied to dry for one hour and then apply the remaining material over it. Although this would normally be considered two coats, it is, by definition, only one Unit Coat.

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INSTRUCTIONS FOR APPLICATION

1. Clean the surface, removing all loose particles, dirt, oil, and grease. Sand down all rough areas.

2. Inspect the surface to make sure that the surface is clean and absolutely dry before proceeding.

3. Apply by brushing or spraying 1 Unit Coat of full-bodied Ucilon Primer 413-P. A Unit Coat of Ucilon Primer 413-P is obtained by applying it so that one gallon covers 175 to 200 square feet. This allows for some absorption into the wood. Should the wood be very porous, we recommend 2 Unit Coats of 413-P. If thinning is necessary, use Ucilon Thinner 413-PT.

4. Allow the primer to air-dry at least 2 hours. Allow more time if application is inside a tank or closed space.

5. Apply the required number of Unit Coats of Ucilon 400. A Unit Coat of Ucilon 400 is obtained by applying it so that one gallon covers 300 square feet. Apply 2 Unit Coats for general maintenance; 2 or 3 to the outside of equipment subjected to vapors and splashings of corrosive liquids; 4 or 5 to the interior of equipment holding corrosive liquids and vapors.

Brushing: When applying by brushing, use Ucilon 400 full-bodied. For thinning, if required, use Ucilon Thinner 400-T.

Spraying: When applying by spraying, thin 3 parts of pigmented Ucilon 400 with 1 part of Ucilon Thinner 400-T. Thin clear Ucilon 400, using 1 part of Ucilon 400 to 1 part of Ucilon Thinner 400-T.

6. Air-dry or force-dry each coat of Ucilon 400. For maximum corrosion resistance and adherence, use force-drying.

Air-drying: Air-dry each coat at least 1 hour, and the final coat at least 24 hours, and preferably a week, before putting in service.

Force-drying: Allow 1 hour of air-drying time between coats and then force-dry the final coat 2 to 5 hours at a temperature no higher than 150 F. Ovens, infrared lamps and forced hot air circulation are satisfactory.

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UCILON INFORMATION BLANK

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Please send us information concerning the Ucilon Coating System which you recommend for the application described below.

What is to be coated? _____

Of what material is the surface? _____

What is its approximate area? _____

In contact with what fumes, liquids, or solids? _____

In contact with what chemical solutions? _____ Concentration _____

_____ Concentration _____ Concentration _____

In contact with what food products? _____

What temperatures are encountered? Average _____

Maximum _____ Time of exposure _____ Minimum _____ Time of exposure _____

What abrasive agents must it withstand? _____

What mechanical abuse is encountered? _____

Would Ucilon be applied by brushing, spraying or dipping? _____

What protective coating is now on surface? _____

What facilities are available for force drying? _____

What color is preferred? _____

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

Mail to the Nearest Office

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INSTRUCTIONS FOR APPLICATION

1. Clean the surface thoroughly to remove all dirt, oil, and grease. Sand down glazed surfaces.

2. Inspect the surface to make sure that the surface is clean and absolutely dry before proceeding.

3. Apply by brushing or spraying 1 Unit Coat of full-bodied Uclion Primer 413-P. A Unit Coat of Uclion Primer 413-P is obtained by applying so that one gallon covers 175 to 200 square feet. This allows for some absorption into the wood. Should the wood be very porous, we recommend 2 Unit Coats of 413-P. Sanding is necessary use Uclion Thinner 413-PT.

4. Allow the primer to air-dry at least 2 hours. Allow more time if application is inside a tank or closed space.

5. Apply the required number of Unit Coats of Uclion 400. A Unit Coat of Uclion 400 is obtained by applying it so that one gallon covers 600 square feet. Apply 3 Unit Coats for general maintenance;

UCLION INFORMATION BLANK

Please send us information concerning the Uclion Coating System which you recommend for the application described below:

What is to be coated?

Of what material is the surface?

What is approximate area?

In contact with what fumes, liquids, or solids?

In contact with what chemical solutions?

Concentration

In contact with what food products?

What temperatures are encountered? Average

Minimum Maximum Time of exposure

What mechanical abuse is encountered?

Would Uclion be applied by brushing, spraying or dipping?

What protective coating is now on surface?

What facilities are available for force drying?

What color is preferred?

NAME TITLE

COMPANY

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UCILON INFORMATION BLANK

Please send us information concerning the Ucilon Coating System which you recommend for the application described below.

What is to be coated? _____

Of what material is the surface? _____

What is its approximate area? _____

In contact with what fumes, liquids, or solids? _____

In contact with what chemical solutions? _____ **Concentration** _____

_____ **Concentration** _____ **Concentration** _____

In contact with what food products? _____

What temperatures are encountered? Average _____

Maximum _____ **Time of exposure** _____ **Minimum** _____ **Time of exposure** _____

What abrasive agents must it withstand? _____

What mechanical abuse is encountered? _____

Would Ucilon be applied by brushing, spraying or dipping? _____

What protective coating is now on surface? _____

What facilities are available for force drying? _____

What color is preferred? _____

NAME _____ **TITLE** _____

COMPANY _____

ADDRESS _____

Mail to the Nearest Office

UNITED CHROMIUM, INCORPORATED

51 East 42nd Street
New York 17, New York

Organic Coatings Division
Technical Service Department
1 Union Street
Carteret, New Jersey

2751 East Jefferson Avenue
Detroit 7, Michigan

208 South La Salle Street
Chicago 4, Illinois

Waterbury 90
Connecticut

44 South Ludlow Street
Dayton 2, Ohio

923 East Third Street
Los Angeles 13, California

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